

CLAIMS

1. A process for the preparation of a solution comprising a substantially pure isoform of AT-III, comprising separating the isoform AT-III α from AT-III β on a calcium hydroxyphosphate-based adsorbent.
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2. The process according to claim 1, comprising the steps
 - (i) preparing a solution mainly comprising AT-III;
 - (ii) contacting the said solution with the calcium hydroxyphosphate-based
10 adsorbent;
 - (iii) eluting and collecting the protein fraction comprising the substantially pure isoform of AT-III.
3. The process according to claim 1 or 2 wherein the separation of AT-III α and AT-
15 III β is carried out by column chromatography.
4. The process according to claim 1 for the preparation of substantially pure AT-III α .
5. The process according to claim 4 wherein AT-III α is eluted from the calcium
20 hydroxyphosphate-based adsorbent with a buffer having a phosphate concentration of from about 50 mM to about 150 mM.
6. The process according to claim 1 for the preparation of substantially pure AT-III β .
- 25 7. The process according to claim 6 wherein AT-III β is eluted from the calcium hydroxyphosphate-based adsorbent with a buffer having a phosphate concentration of from about 150 mM to about 400 mM.
8. The process according to claim 1 wherein the said calcium hydroxyphosphate-
30 based adsorbent is hydroxyapatite.

9. The process according to claim 1 wherein separation of AT-III α and AT-III β is carried out at a pH of from about 6.0 to about 7.5.
10. The process according to claim 2 wherein the said solution mainly comprising AT-III is prepared by a process comprising the steps
- 5 (i) preparing a Cohn Fraction I supernatant from human plasma;
- (ii) contacting the said Cohn Fraction I supernatant with an affinity gel capable of binding AT-III; and
- (iii) eluting and collecting the protein fraction binding to the said affinity matrix.
- 10 11. The process according to claim 10 wherein the said affinity gel comprises heparin as the affinity ligand.
12. The process according to claim 1 wherein the obtained isoform of AT-III is
- 15 substantially free from histidine-rich glycoprotein (HRGP).